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# Energy Efficiency Program Proposal

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ThermWise<sup>SM</sup> Home Energy Audit  
Program

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## Program Overview

The ThermWise Home Energy Audit Program through joint implementation with Questar Gas Company (Questar Gas) and program administrator, Nexant, Inc. (Nexant) targets separately metered residences receiving service on the GS rate schedule. The home energy audit includes two separate delivery channels. Customers will be able to request a self-completed mail-in audit survey at no charge, or may request that a Questar Gas Company (Questar Gas) technician come to their home and conduct an in-home audit. Questar Gas will require customers to pay a \$25 fee per residence for the in-home audit. This fee is added to the customer's Questar Gas bill. This fee is fully refundable upon implementation of any qualifying Questar Gas energy-efficiency rebate measure, by way of a credit to the customer's Questar Gas bill.

With both home energy audits (in-home or mail-in), participating customers will receive a customized report recommending home improvements that can be implemented to reduce natural gas usage. During the audit and based on the need, Questar Gas will offer certain energy-efficiency measures identified in Table 1 below at no charge.

The ThermWise Home Energy Audit Program is one of several energy-efficiency programs offered by Questar Gas. The program will seek to increase customer awareness of energy efficiency and be a feeder for other Questar Gas energy-efficiency programs while providing cost-effective customer natural gas savings on its own merits.

# Program Design

## Qualifying Customers

Separately metered existing residences, in Questar Gas' Utah service territory and billed on a GS rate schedule are eligible to participate in the ThermWise Home Energy Audit program.

## Measure Eligibility

Table 1 lists the low-cost energy-efficiency measures and eligibility requirements under the audit program.

**Table 1. Audit Energy-Efficiency Measures**

	<b>Water Heater Blanket</b>	<b>Pipe Insulation</b>	<b>Faucet Aerator</b>	<b>Low Flow Shower Head</b>
Baseline requirement	Gas water heater warm to the touch or as determined by audit	Gas water heater, no pipe insulation	Gas water heater, $\geq 2.75$ GPM	Gas water heater, $\geq 3.0$ GPM
Minimum efficiency requirements	R-7 water heater blanket	First 4ft HW, first 2 ft CW	< 2.0 GPM	< 2.5 GPM
Measure lifetime (yrs)	10	10	10	10

Audit related energy-efficiency measures are outlined below in Table 2. These measures, as listed below, will be provided by Questar Gas during home-energy audits when eligibility requirements are met.

**Table 2. Audit Energy Efficiency Measures**

<b>Program Measure</b>	<b>QGC Provided</b>	<b>QGC Installed</b>
<b>Water Heater Blanket</b>	Yes	If Possible and Needed
<b>Pipe Insulation</b>	Yes	Yes
<b>Faucet Aerator</b>	Yes	No
<b>Low Flow Shower Head</b>	Yes	No

## Rebate Limitations

- No-charge energy-efficiency measures are only provided to customers who are eligible to receive them based on the need determined in the audit.

Table 3 summarizes the projected number of audits that will be conducted under the program.

**Table 3. 2009 Audit Participants**

Program Year	On-site Audits	Mail-in Audits	Total
2009	2,500	1,093	3,593

## Process Overview

An overview of the implementation process associated with the program is provided in Figure 1 in the *Customer Participation Process* section below. Additional information regarding the scope of the mail-in and in-home audit process is also provided below.

### Mail-In Audits

Customers should be able to complete the mail-in audit within thirty to sixty minutes. The process will require customers to walk around their homes and collect information about natural gas-consuming appliances and equipment (e.g. number, location, size, model number, etc.) as well as building shell information, but will not require any special equipment, skills, or detailed measurements to be taken.

Input from completed and returned surveys will be used to prepare a customized audit report for the customer. The report will contain information on the estimated breakdown of natural gas usage by major end-use calibrated to the customers past usage history if available. The report will also contain a prioritized list of recommended energy-efficiency measures that the customer should implement, based on estimated cost, payback and complexity. Where applicable, information on how to apply for available rebates from Questar Gas will also be included.

### In-Home Audits

Questar Gas customers requesting an in-home audit from one of Questar Gas' audit technicians may be required to complete a basic questionnaire (e.g. customer information, usage patterns, etc.). If the number of in-home audit requests exceed Questar Gas' capabilities to complete them in a timely manner, customers may be screened and prioritized based on age of house, natural gas usage, size of house, age of appliances, eligibility for weatherization assistance, ability to complete the mail-in audit process, or other metrics identified by Questar Gas. Any customer who cannot be offered an in-home audit within a reasonable timeframe will be redirected to the mail-in audit portion of the program.

The in-home audit process will collect and/or augment the following customer information:

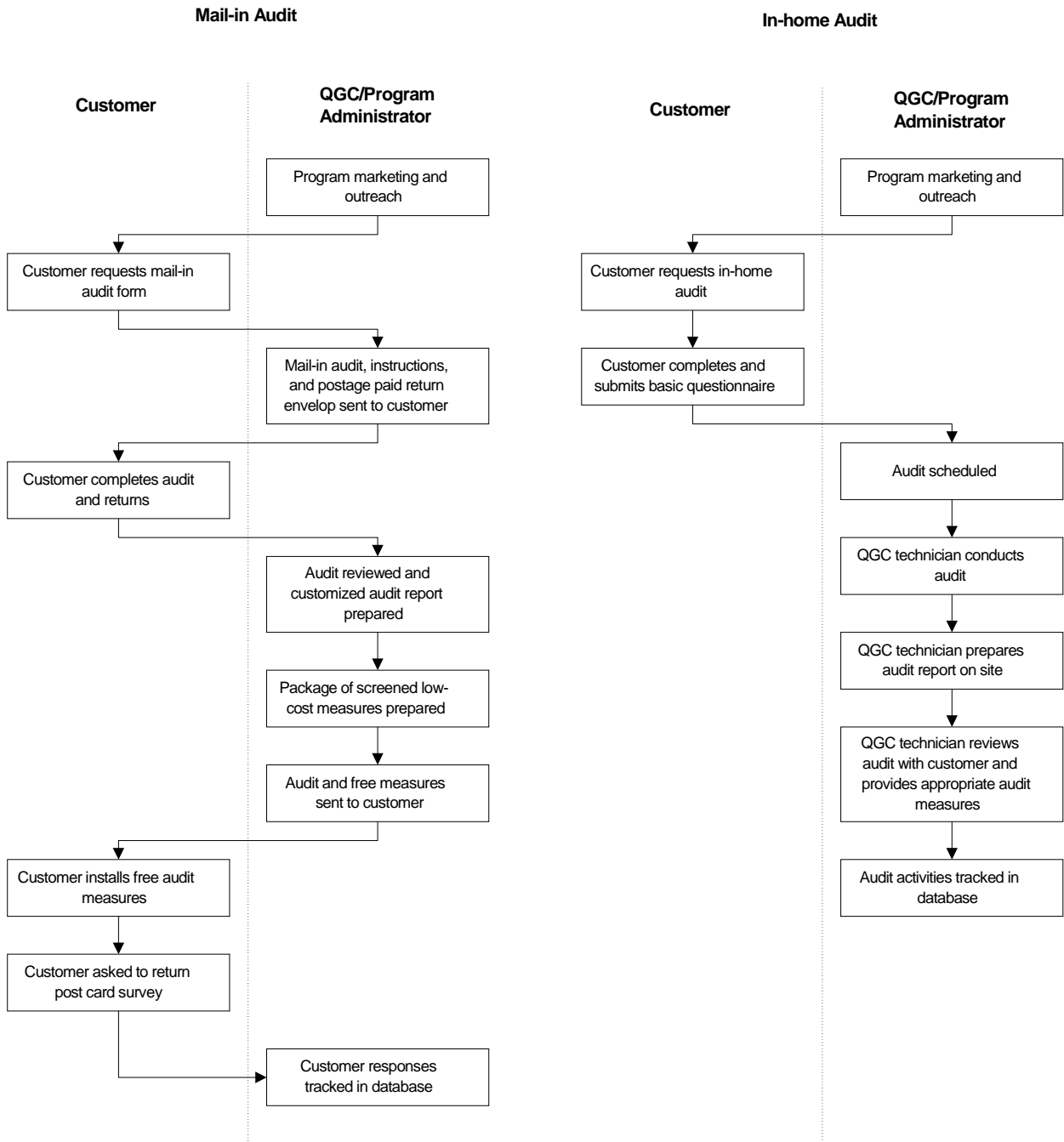
- Building shell information (e.g. insulation levels, window types and sizes, conditioned square footage, etc.)
- Gas appliance information (e.g. number, type, age, size, etc.)

- Heating system information (e.g. age, size, model number, nameplate efficiency, etc.)
- Usage patterns (e.g. temperature set points, number of occupants, etc.)
- Primary infiltration reduction opportunities identified by visual inspection (e.g. sealing windows, doors, electrical outlets, plumbing vents, fireplace dampers, etc.)

In-home audits will be conducted using handheld wireless devices, allowing Questar Gas audit technicians to conduct the audit in real-time, download the information to a central database, and then retrieve and print the audit report while on site. This functionality will allow the audit technician to review the report and answer customer questions at the time of the audit, helping to increase customer awareness, education, persistence in customer behavioral changes, providing additional energy-efficiency measures, and participation in other Questar Gas energy efficiency programs.

# Application Process

## Figure 1. Home Energy Audit Process



Questar Gas will provide marketing and promotional support for the ThermWise Home Energy Audit Program to encourage customer participation and help program cost effectiveness. Marketing strategies may include:

- On-line brochure and associated program information placed on ThermWise.com.
- Notification of program information and availability in company newsletters and bill inserts (when applicable).
- Cross-marketing with other Questar Gas energy-efficiency programs and activities, i.e. consumer and trade shows, special promotions, direct sales and rebate check inserts.
- Some targeted direct mail advertising based on age of home and specific market segments.
- In addition, as with all Questar Gas Demand Side Management (DSM) programs, market transformation education and awareness advertising will incorporate the Residential Home Energy Audit Program into the overall energy-efficiency campaign advertisements and strategies.

Table 4 presents the estimated gross customer savings.

**Table 4. Audit Energy Efficiency Measure Gross Savings Estimates (Dth/yr)**

<b>Program Year</b>	<b>Water Heater Blanket</b>	<b>Pipe Insulation</b>	<b>Faucet Aerator</b>	<b>Low Flow Shower Head</b>	<b>Total</b>
<i>Unit</i>	<i>Each</i>	<i>system</i>	<i>each</i>	<i>each</i>	
<i>Unit Savings (Dth/unit/yr)</i>	2.20	1.40	.44	5.79	
Annual Savings	1,712	2,617	1,027	6,768	<b>12,124</b>

The ThermWise Home Energy Audit Program will continue seamlessly immediately following Public Service Commission approval.